Paging Management System
User Manual

V1.0

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Chapter 1 Introduction

Paging Management System (Abbreviated as PMS) is a software application developed exclusively by ZYCOO. The primary purpose of PMS is to provide unified management capability for SIP Speakers. Each SIP Speaker can be managed as an extension and can be centrally configured, grouped, monitored and managed by PMS. Even standard desk phones can be used for making announcements by simply connecting them to your CooVox IP PBX system via the SIP protocol (U60 and U100 only).PMS allows you to make announcements using a specified voice file on a scheduled time and date and all announcement logs are available to review from the paging management system.PMS is a flexible solution that can through a simple and intuitive interface expand your system to add more SIP Speakers to your network at any time.

PMS has been designed to complement Zycoo's SIP based audio system iSpeaker which is a dedicated PA device that utilizes the built-in intercom and paging capability already inherent in most modern IPPBX systems and enhances this to improve end user experience by providing a dedicated high performance digital amplifier on which to broadcast announcements or play background music. There are two models currently available which are the iSpeaker B20 and iSpeaker C20.

PMS Highlights:

- Group announcements
- Volume Control
- PA for specified area
- PA at scheduled time
- Real-time announcement
- Unified management of audio files
- Remote settings /management/ upgrade
- Real-time and remote monitor speakers status
- Unified configuration of SIP speakers
- Simple to use with user friendly Web interface
- Custom service is available (e.g.: emergency announcement)
- Paging to up to 500 SIP Speakers

Instructions:

- Paging Management System requires integration with Zycoo CooVox IP PBX to function (U60 and U100 currently supported).
- This initial release version of PMS will work as a plugin to existing firmware and will require installing on your CooVox system before use. Please find details in PMS Installation Guide.
- Later versions will be integrated into CooVox IP PBX firmware.
- Supported web browsers version of Paging Management System include:
  - FireFox-5.0 and above;
  - Chrome-19 and above;
  - IE10 and above.

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Chapter 2 Paging Management System

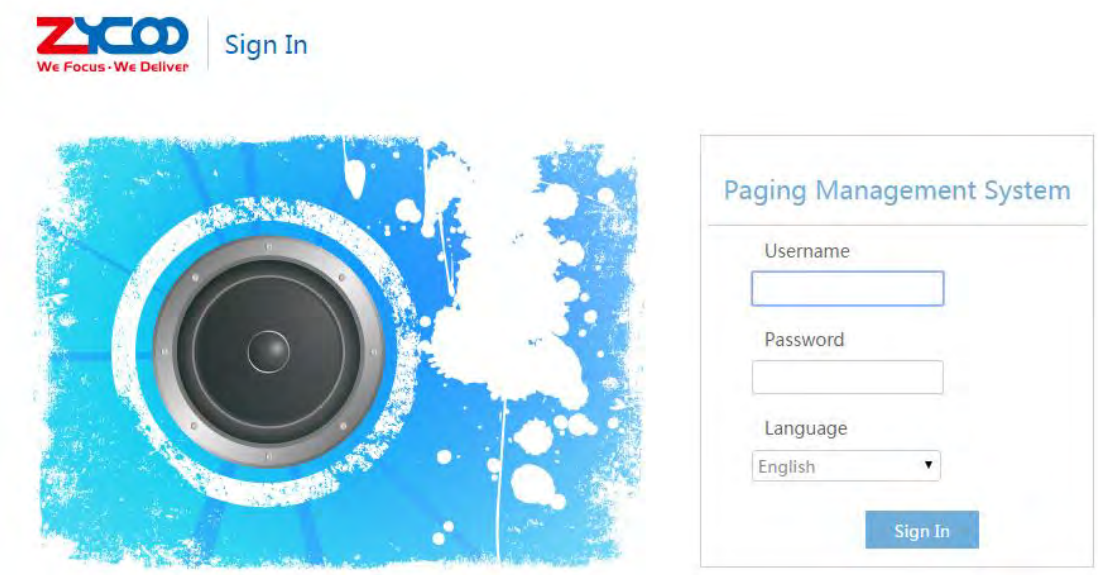
2.1 Login

Login IP of PMS is the same as the CooVox IP PBX on which it is hosted, the only difference is the port number which is 9997 for PMS which differs from the 9999 for CooVox IP PBX.

For example, where the login IP of your IP PBX is 192.168.1.210:9999; therefore the login IP of the related PMS would be 192.168.1.210:9997.

Default username and password is: admin/admin
Supported Language: English/Chinese (We will introduce other languages gradually)

After select language, input username and password to login.



Note: To protect system security, please change your login password at first login from **System -->My Information**.

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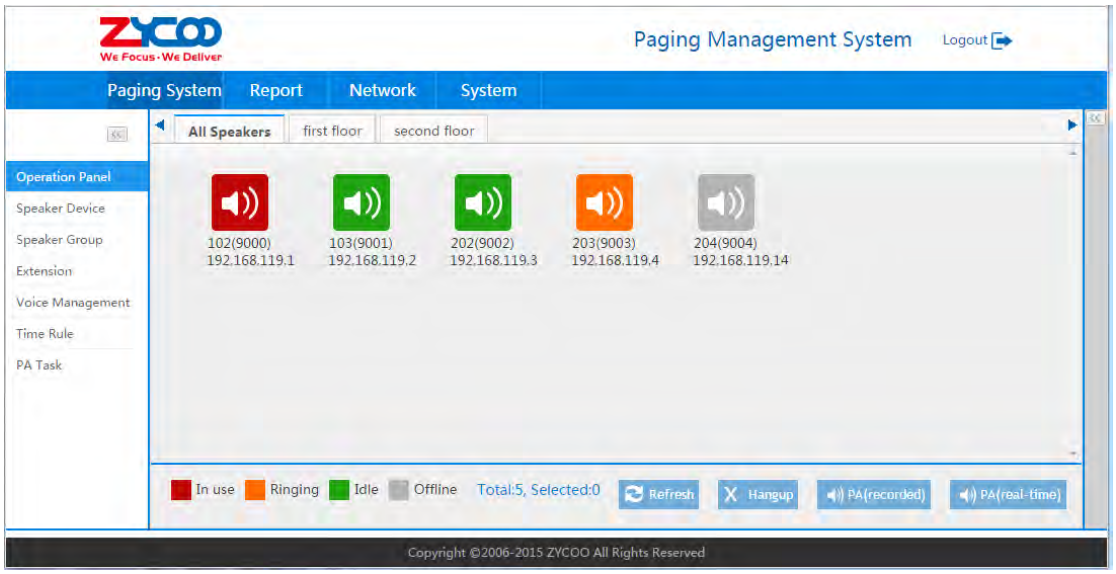
2.2 Operation Panel

Operation Panel will be displayed after sign in. The status of all speakers will be displayed on this panel and you can also broadcast directly from this page.



Speakers Status Description:

SIP Speaker is in use now.

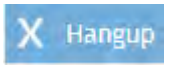
SIP Speaker is offline and cannot work at this time.

SIP Speaker is idle and can work at this time.

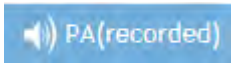
SIP Speaker is ringing.

Operation Description:

Click “Refresh” button to refresh speaker status



Select the speakers which are in use or ringing, then click this button to hang up the call.



Select the speakers which are idle, then click this button to start recorded PA(Public Address).

Select the speakers which are idle, then click this button to start real-time PA(Public Address).

Emergency Operation (Customizable)

Emergency operation is not available at this time, but can be added as a customized feature.

For example if “Fire” is associated to an emergency number, then click “Fire” to call this emergency number; or if “Earthquake” is associated to an emergency group, then click “Earthquake” to call this related emergency group.

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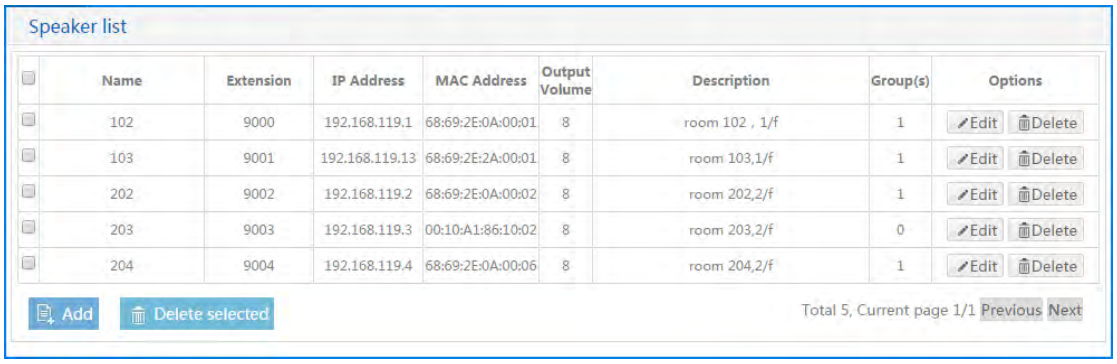
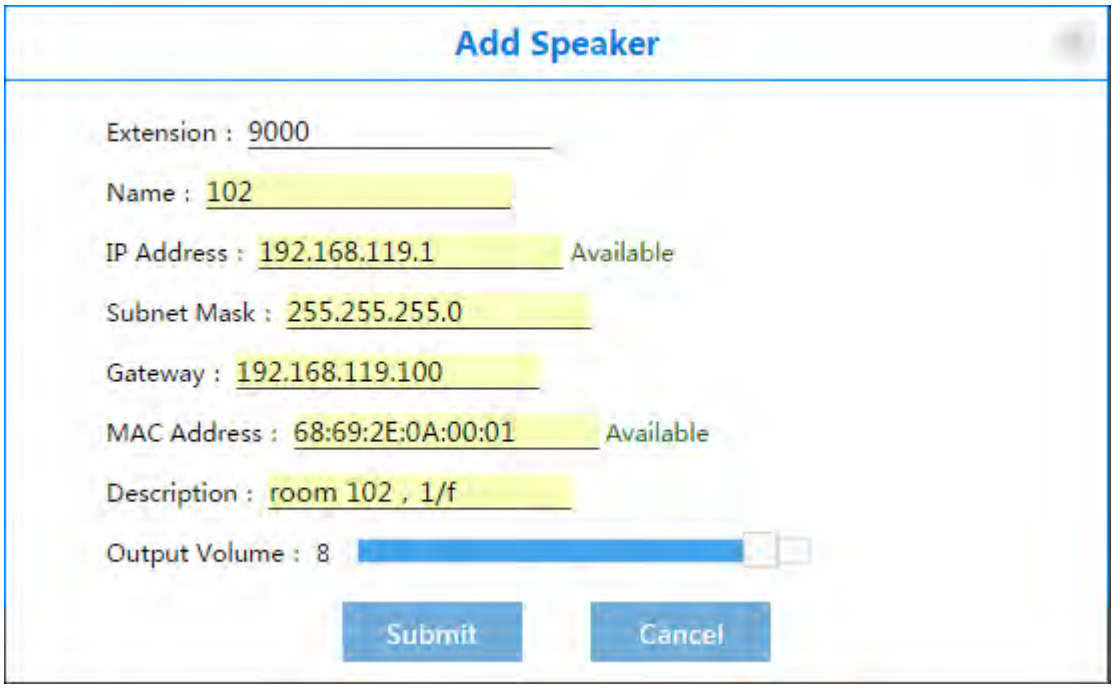
2.3 Speaker List

Speaker list is used to manage all SIP Speakers. From below picture, you can find speaker name, extension, IP address, MAC address, output volume, description, and also identify the groups the device belongs to.


Speaker list
Name
Extension
IP Address
MAC Address
Output Volume
Description
Group(s)
Options
102 9000 192.168.119.1 68:69:2E:0A:00:01 8 room 102 , 1/f 1 Edit Delete
103 9001 192.168.119.13 68:69:2E:2A:00:01 8 room 103,1/f 1 Edit Delete
202 9002 192.168.119.2 68:69:2E:0A:00:02 8 room 202,2/f 1 Edit Delete
203 9003 192.168.119.3 00:10:A1:86:10:02 8 room 203,2/f 0 Edit Delete
204 9004 192.168.119.4 68:69:2E:0A:00:06 8 room 204,2/f 1 Edit Delete
Add
Delete selected
Total 5, Current page 1/1 Previous Next

You can add new speaker on this page and define an extension to the speaker. See below:



Speaker Parameters:

Item	Explanation
Extension	Define an extension number for this speaker
Name	Define the name for this speaker, e.g.: room102
IP Address	Distribute IP address for this speaker
Subnet Mask	Set subnet mask
Gateway	Set gateway
MAC Address	Set MAC address of this speaker
Description	Describe this speaker in detail, e.g.: room 102, 1st floor
Output Volume	Set output volume for speaker (volume ranges from 0 to 9)

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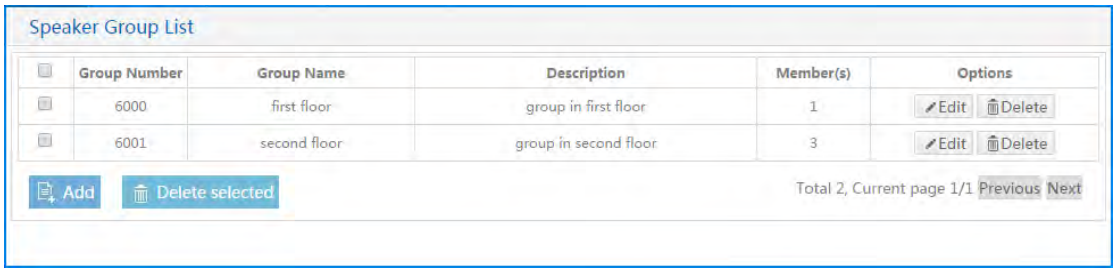
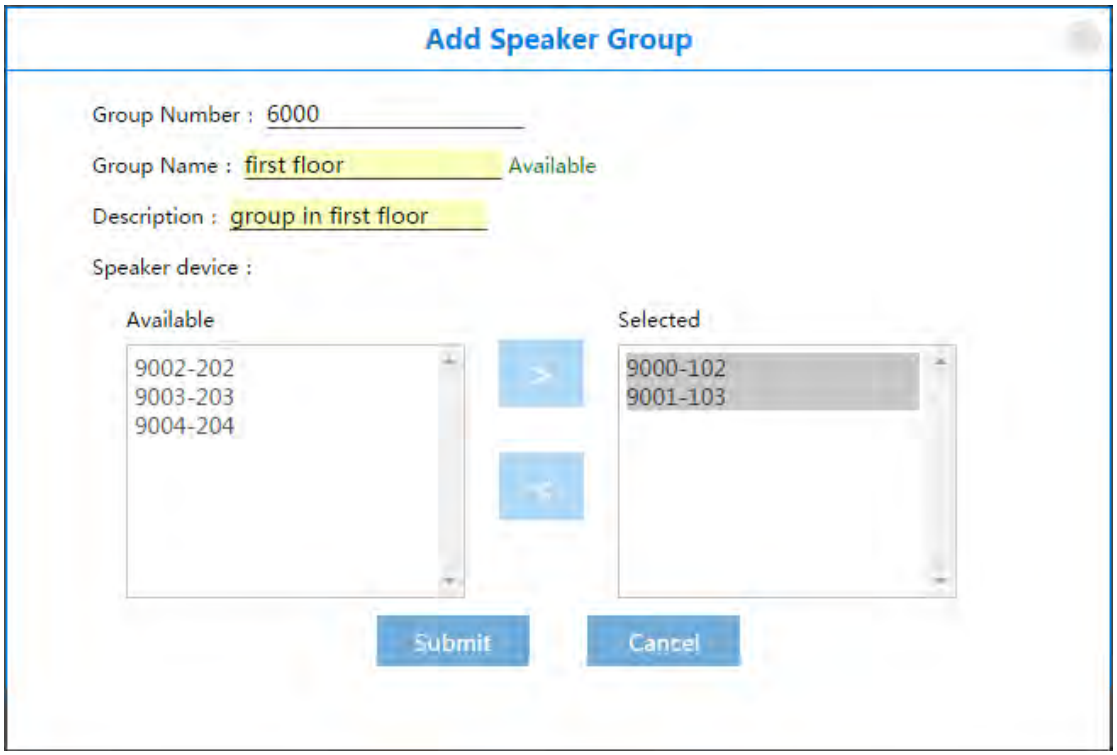
2.4 Speaker Group

Speaker group is used to group speakers. From the example below, you can see there is one speaker in the first floor which belongs to group 6000 and there are three speakers in the second floor which belong to group 6001.



An administrator can add or delete a speaker group from this page.

Add Speaker Group



Speaker Group Parameters:

Item	Explanation
Group Number	Define a number for this group
Group Name	Define a name for this group
Description	Describe this group in detail
Speaker device	Select some available devices to this group

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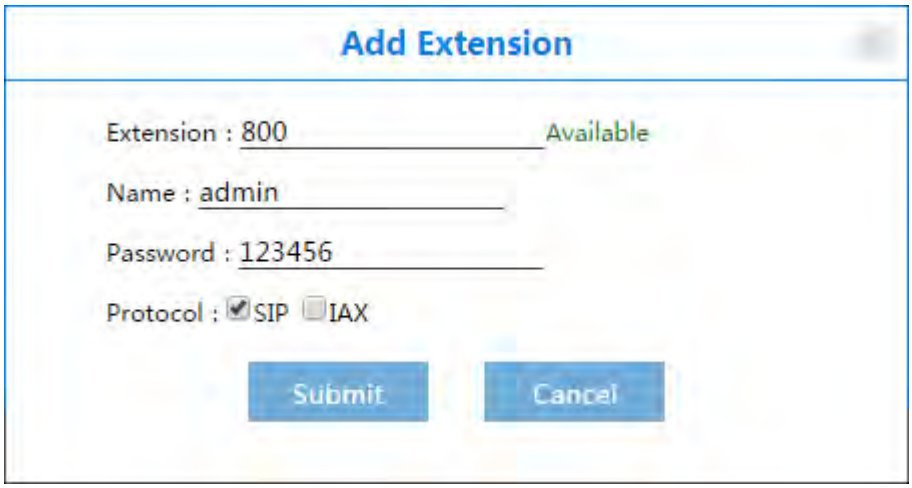
2.5 Extension Management

Extensions in PMS are exactly the same as extensions in CooVox IP PBX, and are synchronized in real-time with the IP PBX. All announcements will be sent through the designated extensions which can be any SIP or IAX2 terminal device.

Add Extension



Extension Parameters:

Item	Explanation
Extension	Define the extension number
Name	Define the name for this extension
Password	Password for login
Protocol	Select the protocol(SIP or IAX2) for this extension.

2.6 Voice Management

A Voice file can pre-loaded into the system for later playback. This voice file can be any audio file for announcements such as background music or a recorded notification... Category list is used to centrally manage different voice files.

The voice file format can be **gsm**, **wav**, **mp3**.
Suggested standard voice file should be 8Khz, 16bit, mono. Please refer to this standard requirement to avoid any problem with higher quality voice file in announcement.

Add Category

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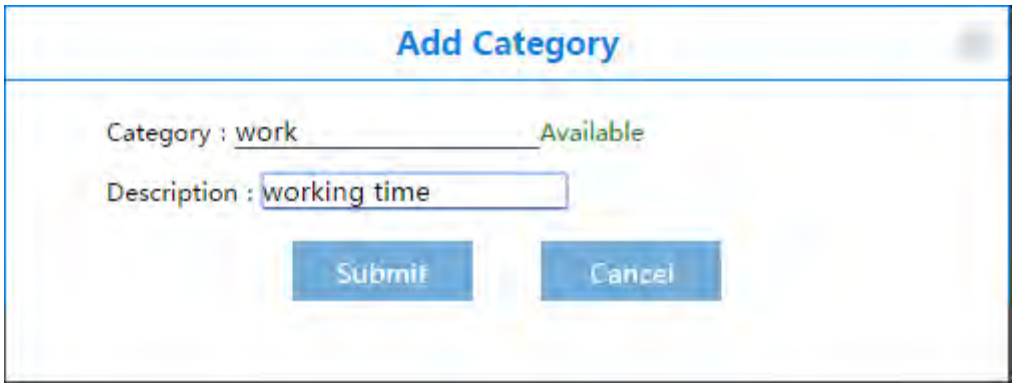
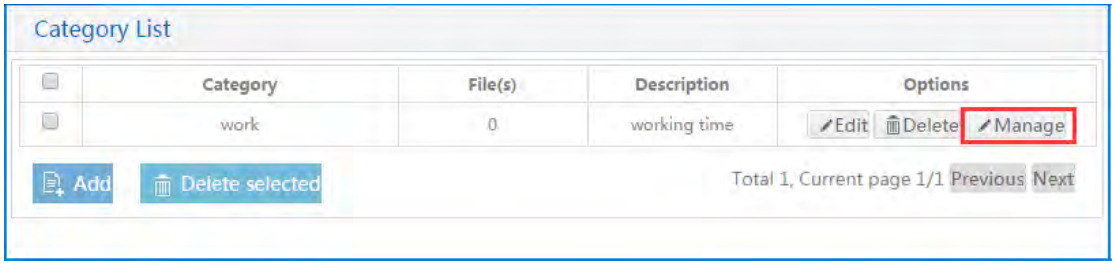


Category Parameters:

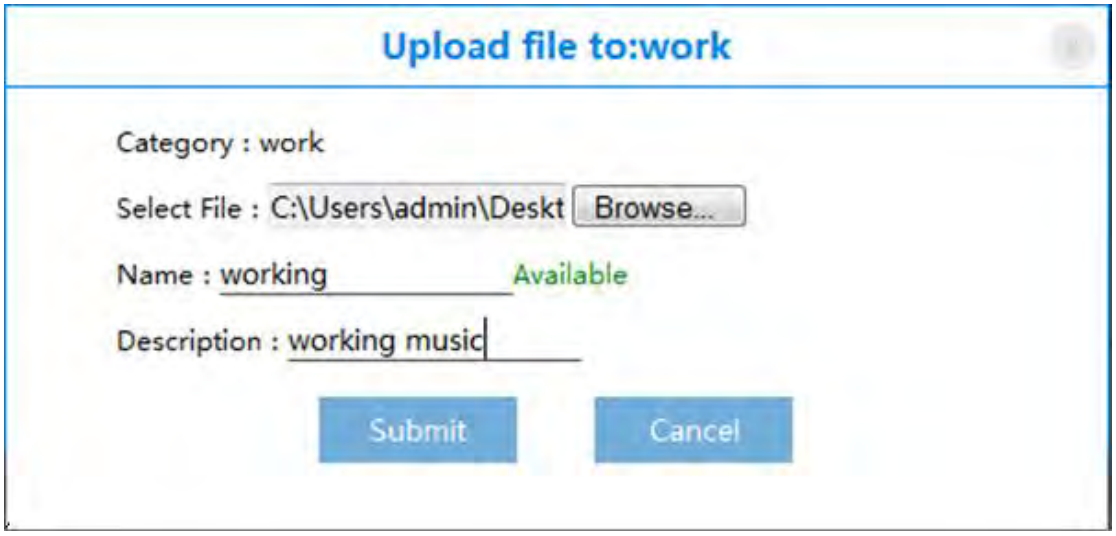
Item	Explanation
Category	Define this category
Description	Describe this category in detail

When category is created, you can manage the files in this category.



Click **Manage** and upload voice files for this category.

Upload voice file



Voice File Parameters:

Item	Explanation
Category	Voice file category

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Select File	Click [Browse] to select the file to upload
Name	Define this voice file
Description	Describe this file in detail

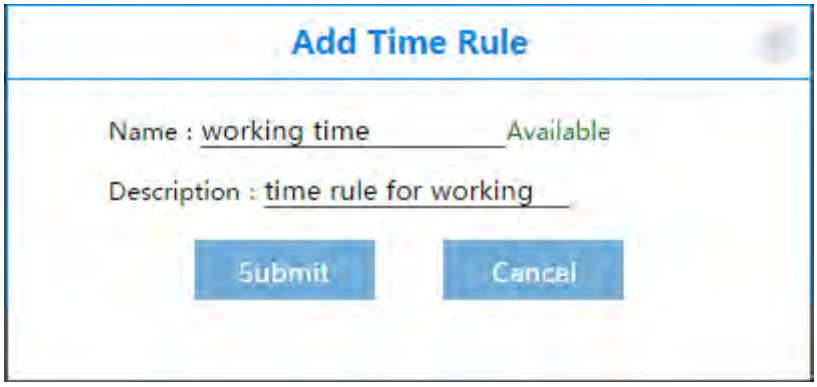
2.7 Time Rule

Time rules are used to manage the announcement task based on a defined time rule. This allows the flexibility to set different tasks to be executed at different times of the day or week.

Multiple time rules can be set to support the requirement for multiple tasks.

Click **Add** from the Time Rule List to create a new time rule.

Add Time Rule



Time Rule Parameters:

Item	Explanation
Name	Define a name for this time rule
Description	Describe this time rule in detail

After successfully creating the time rule, you must configure the detailed time rule.

E.g.:

Month: Empty

Date: Empty

Day: Select Monday/ Tuesday/ Wednesday/ Thursday/ Friday

Hour: 9:00

This rule means 9:00 am on every Monday to Friday

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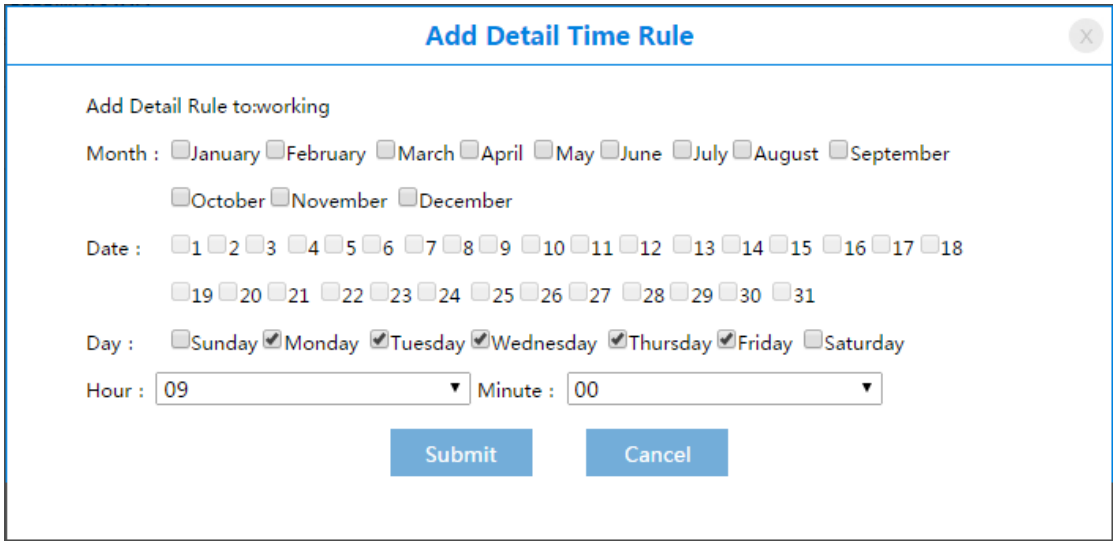
Add Detail Time Rule
Add Detail Rule to:working
Month : January February March April May June July August September
October November December
Date : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
19 20 21 22 23 24 25 26 27 28 29 30 31
Day : Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Hour : 09
Minute : 00
Submit
Cancel

Detail Time Rule Parameters:

Item	Explanation
Month	Select the month
Date	Select the date
Day	Select the day (Note: Day and Date cannot be selected simultaneously
Hour/Minute	Select hour/minute

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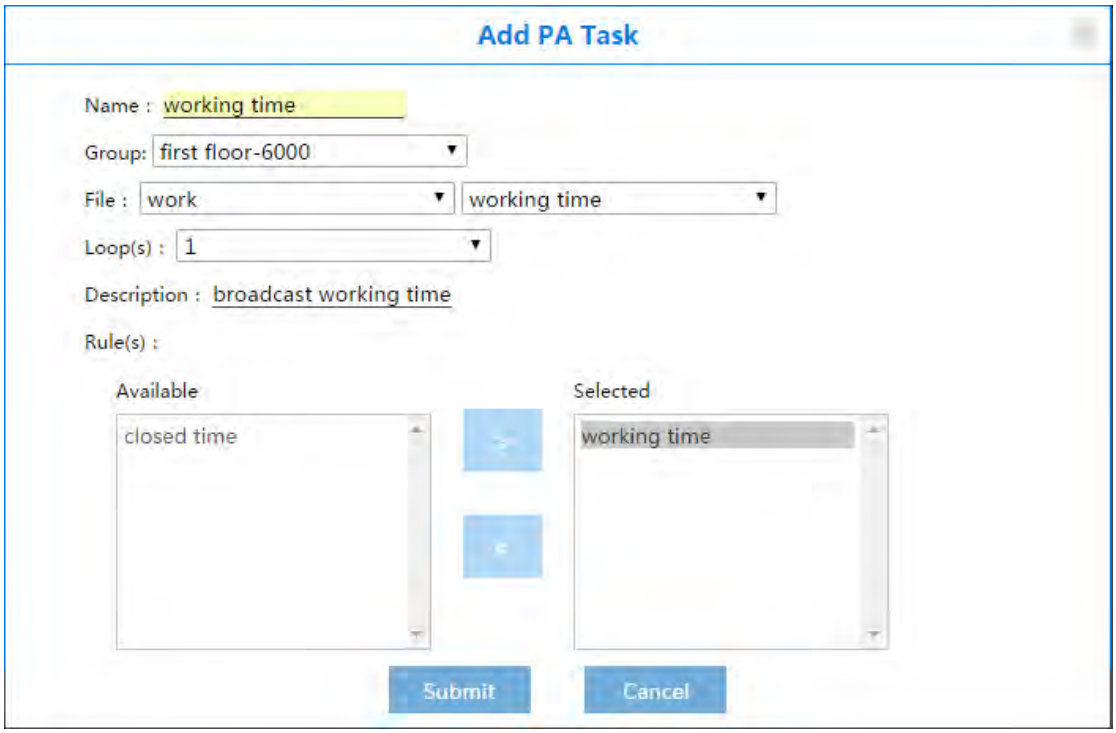
2.8 Public Address(PA) Task

Public Address (PA) task is used to manage all tasks.

Add PA Task



PA Task Parameters:

Item	Explanation
Name	Define a name for this task
Group	Define a group for this task
File	Select the voice file for this task
Loops	How many loop times to play this task
Description	Describes this task in detail
Rule(s)	Select the time rule for this task (Multiple rules are available)

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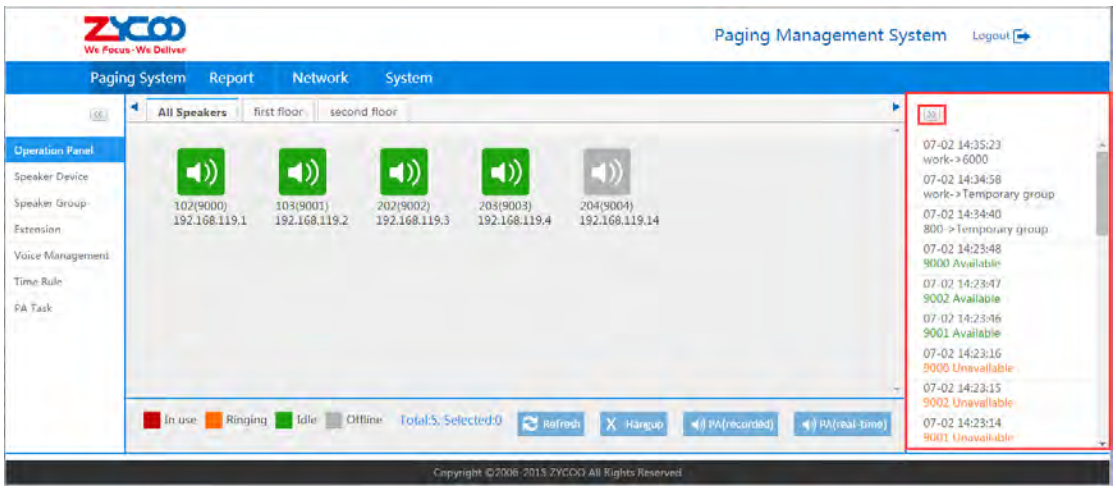
2.9 System Log

System log is to display the real-time status or any operation logs. It is displayed on the right of web GUI, and available to be hidden.

See attached example:

Select the speakers which are idle, then click this button to start real-time PA(Public Address).



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Chapter 3 Report

The report section provides information relating to public address logs and alarm logs in the paging management system.

Public address logs comprise of 1) real-time PA logs and 2) pre-recorded PA logs.

3.1 PA (real-time) Log

Real-time PA is normally addressed by someone and is therefore generally a live announcement.

PA (real-time) Log Parameters:

Item	Explanation
Time	Time the public address started
Source	The source device that made this public address
Destination	Destination device or group that received the public address

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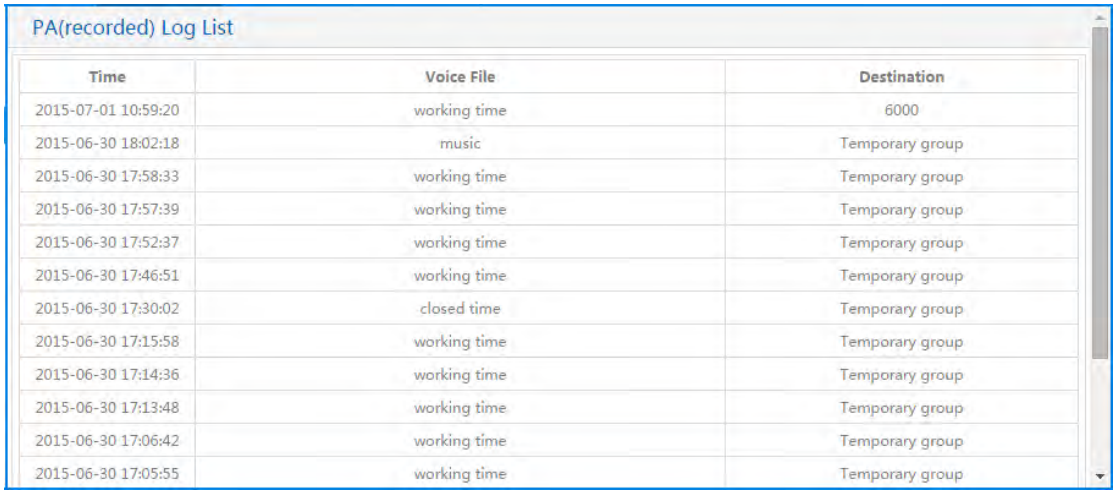
3.2 PA(pre-recorded) log

Pre-recorded PA log details the pre-recorded voice files that have been played.

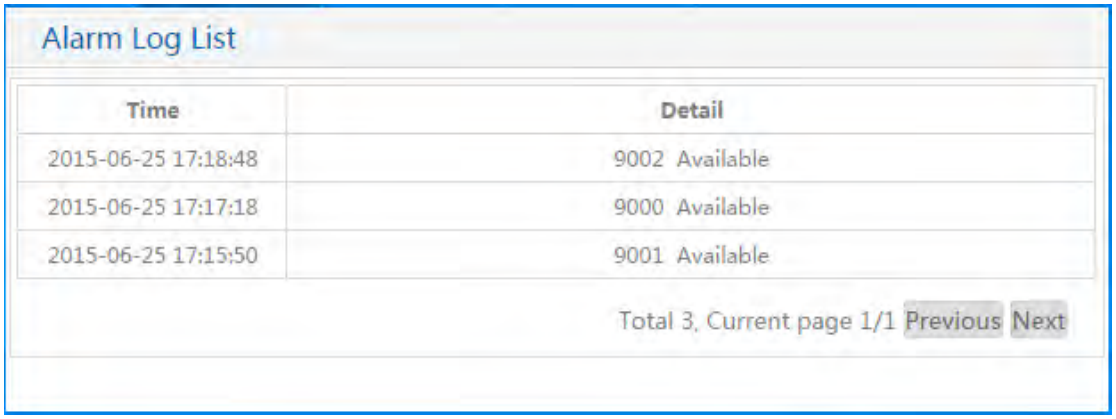


PA(recorded) Log Parameters:

Item	Explanation
Time	Time that the public address started
Voice File	Voice file name which was played in the public address
Destination	Destination device or group that received the announcement

3.3 Alarm Log

The alarm log details speakers status and will show information such as which speakers are available and which ones are offline, etc.



Alarm Log Parameters:

Item	Explanation
Time	The time the alarm event occurred.
Detail	Detail status of iSpeaker

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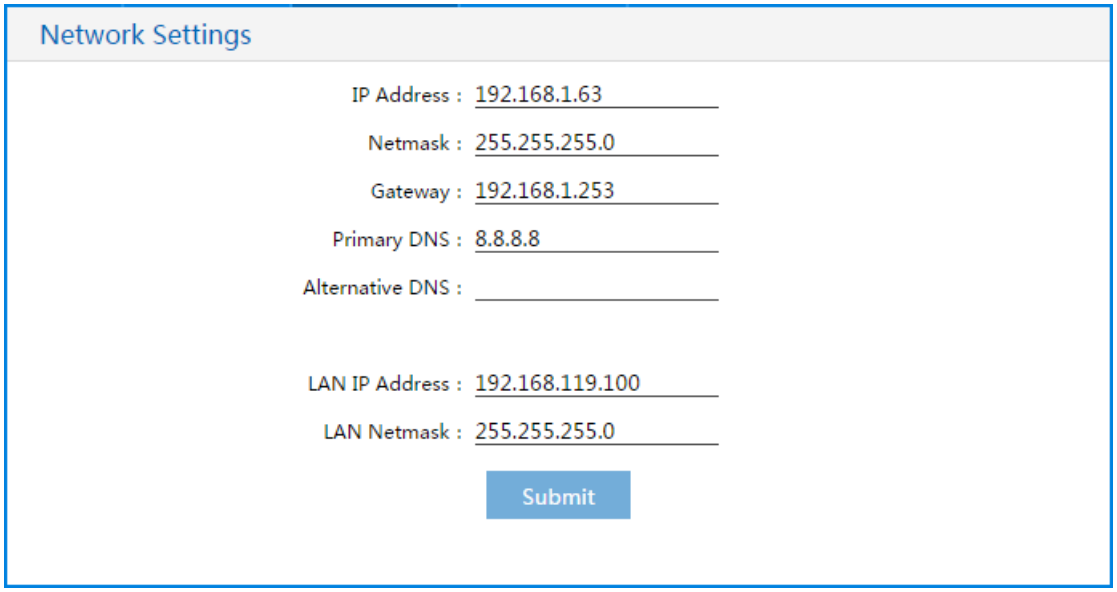
Chapter 4 Network

The Network section relates to the network management of the PMS (Paging Management System), and helps users in tracking system problems and undertaking simple networking troubleshooting activities.

4.1 Network Settings

Network settings of PMS is the same as and synchronized with CooVox IP PBX. (Only workable when IPPBX is in static network)
It is not necessary to configure this section if you have already configured the static ip address on your CooVox IPPBX.



Network Settings Parameters:

Item	Explanation
IP Address	IP Address of WAN port
Netmask	Netmask of WAN
Gateway	IP address of Gateway
Primary DNS	Default DNS address
Alternative DNS	Alternative DNS address
LAN IP Address	IP Address of LAN port
LAN Netmask	Netmask of LAN port

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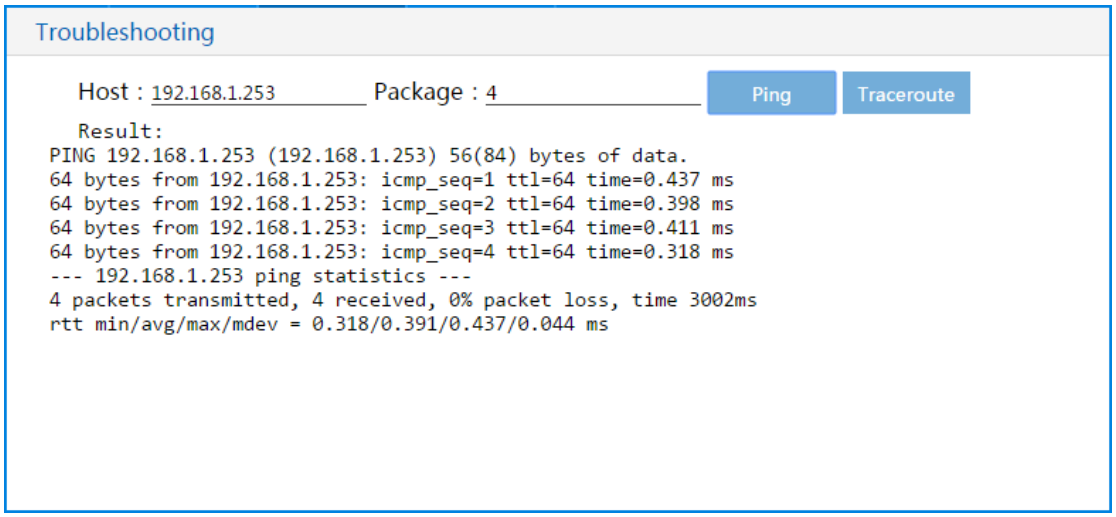
4.2 Troubleshooting

Troubleshooting is used to track the network problems and allows you to determine if you can communicate with other network devices directly from PMS.


Troubleshooting
Host : 192.168.1.253
Package : 4
Ping
Traceroute
Result:
PING 192.168.1.253 (192.168.1.253) 56(84) bytes of data.
64 bytes from 192.168.1.253: icmp_seq=1 ttl=64 time=0.437 ms
64 bytes from 192.168.1.253: icmp_seq=2 ttl=64 time=0.398 ms
64 bytes from 192.168.1.253: icmp_seq=3 ttl=64 time=0.411 ms
64 bytes from 192.168.1.253: icmp_seq=4 ttl=64 time=0.318 ms
--- 192.168.1.253 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 0.318/0.391/0.437/0.044 ms

Troubleshooting Parameters:

Item	Explanation
Host	IP Address of the host
Package	Number of Ping packets to send
Ping	Test the reachability of the host on the network. It measures the round-trip time from transmission to reception, reporting errors and packet loss.
Traceroute	Traceroute will measure transit delays of packets to a host across the Network and will detail the path your packets travelled to reach the host.

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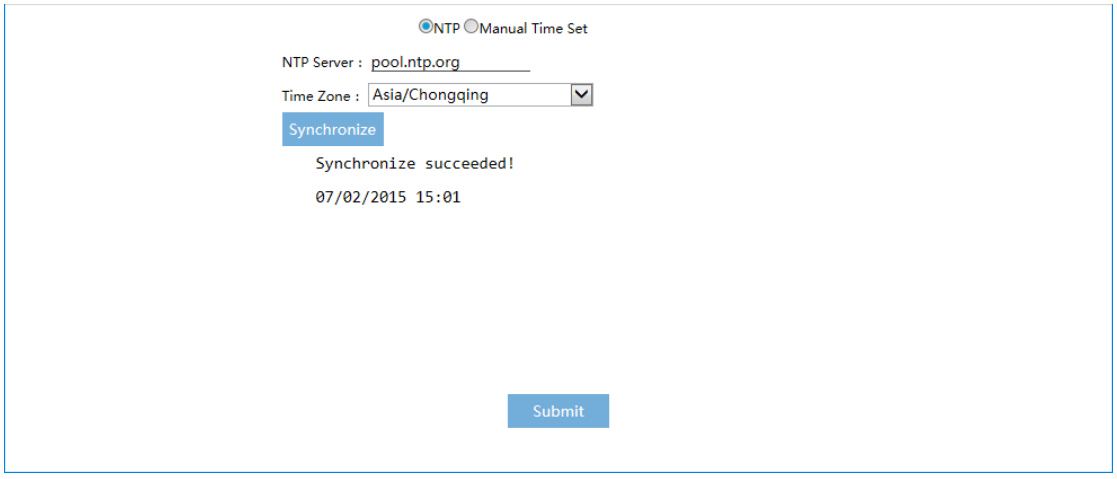
Chapter 5 System

The system section is used to manage the basic information and settings of PMS including time settings, system reboot & restore, user extension and admin password settings.

5.1 Time settings

Time settings can be configured in two ways which are NTP service and manual settings.

5.1.1 NTP Service



NTP Service Parameters:

Item	Explanation
NTP Server	NTP server address
Time Zone	Select your time zone
Synchronize	Synchronize with NTP server

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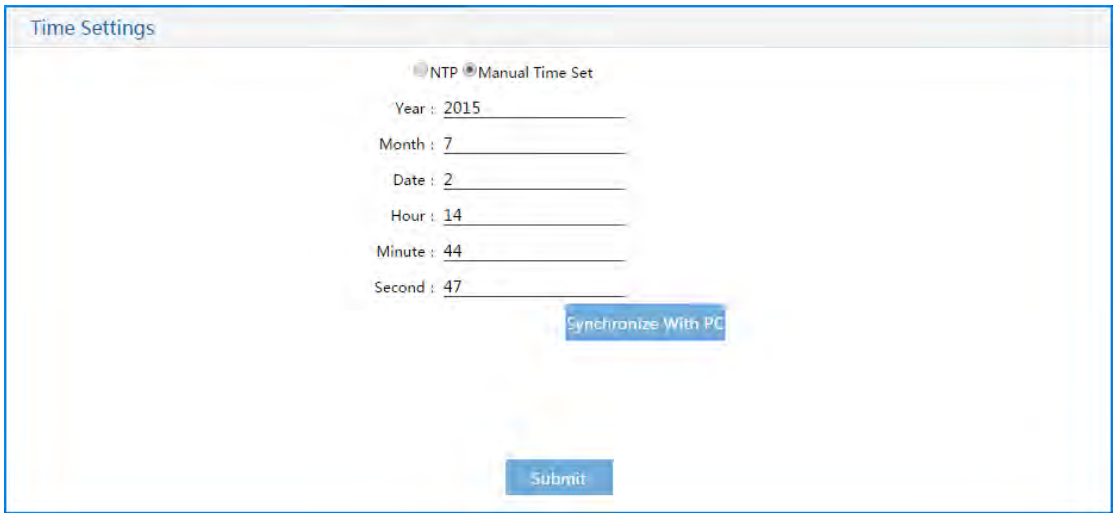
5.1.2 Manual Time Set



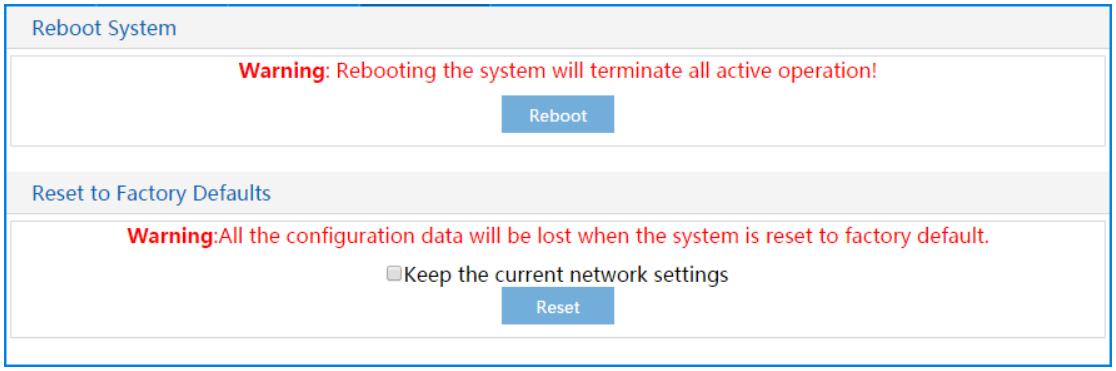
Input the year, month, date, hour, minute and second, click [Submit] to finish the manual settings.

Or alternately you can click "**Synchronize With PC"** to synchronized with your PC time.

5.2 Reboot & Restore

Note:

- Rebooting the system will terminate all active operation.
- All the configuration data will be lost when the system is reset to factory default. If you choose "**Keep the current network settings"**, all the data except network settings will be lost.


Reboot System
Warning: Rebooting the system will terminate all active operation!
Reboot
Reset to Factory Defaults
Warning:All the configuration data will be lost when the system is reset to factory default.
Keep the current network settings
Reset

Reboot&Restore Parameters:

Item	Explanation
Reboot	Reboot system
Keep the current network settings	Network settings will be saved when reset to factory default
Reset	Reset to factory default

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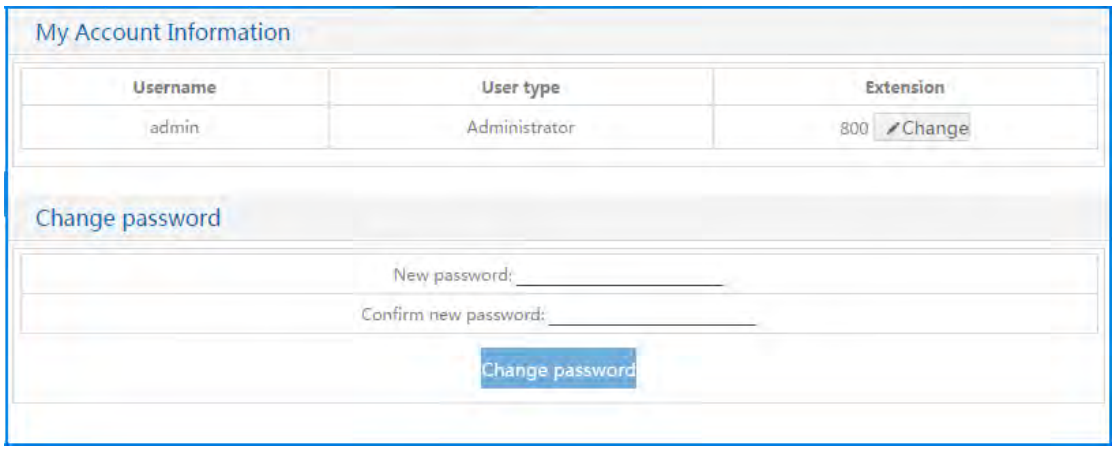
5.3 My Information

This page is used to edit user extension numbers or change admin password.



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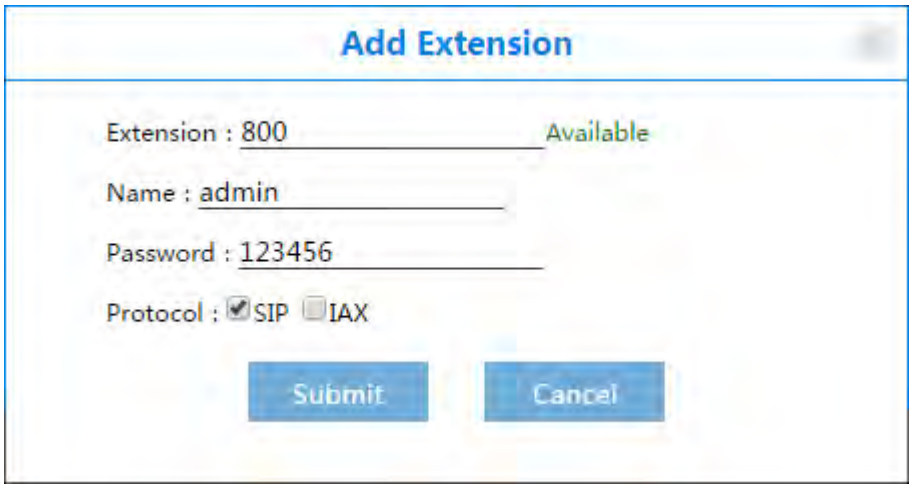
Chapter 6 Application Example

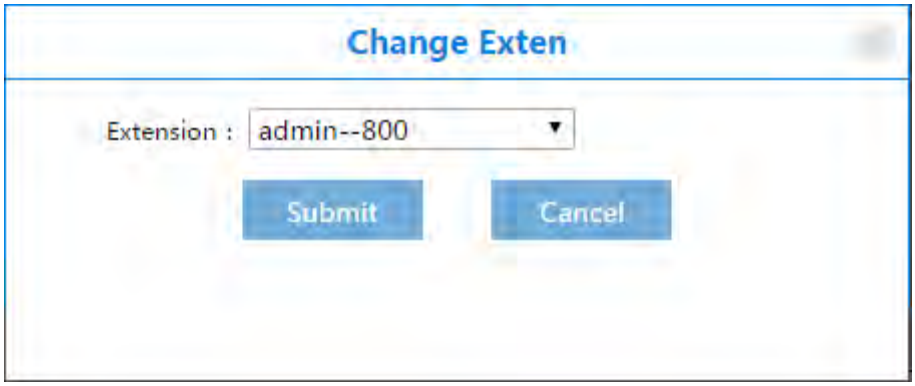
The following section provides a simple configuration example of how to get PMS up and running quickly and efficiently.

6.1 Admin Settings

First, configure an extension for the admin. E.g.: 800.
Click **Paging System→Extension**:



Click **System→My Information→Change** the extension to admin, then submit and apply.



Extension 800 can be registered by any sip enabled device such as CooCall softphone or an alternate IP Phone.

6.2 iSpeaker Settings

Next you must login to your CooVox IP PBX system and ensure the PnP is enabled. This is a fast way to auto provision of iSpeaker.

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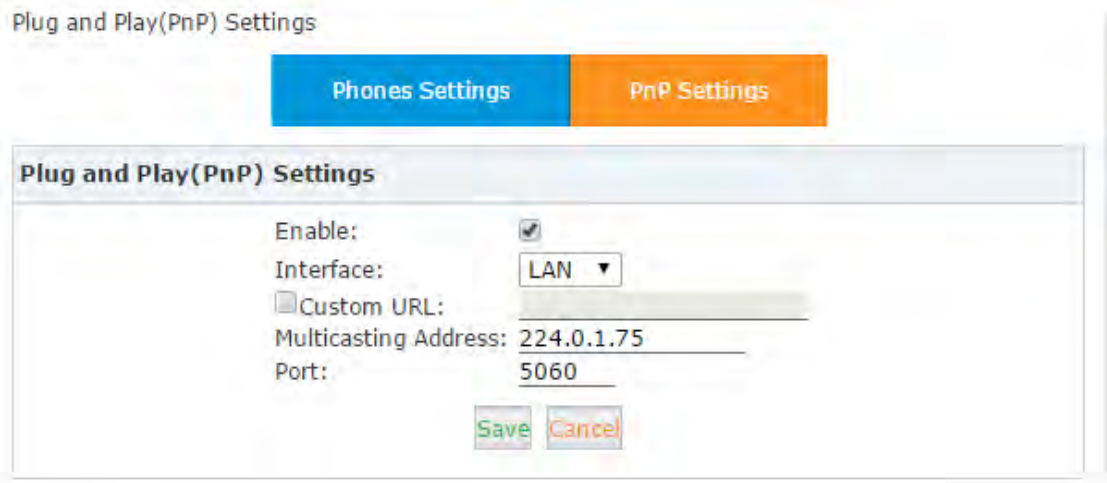
To achieve this, go to your CooVox IP PBX web interface using either the default IP – 192.168.1.100:9999 or an alternate address that you have programmed.

Click **Advanced→ Phone Provisioning→PnP Settings** to enable PnP and use multicasting for LAN port.

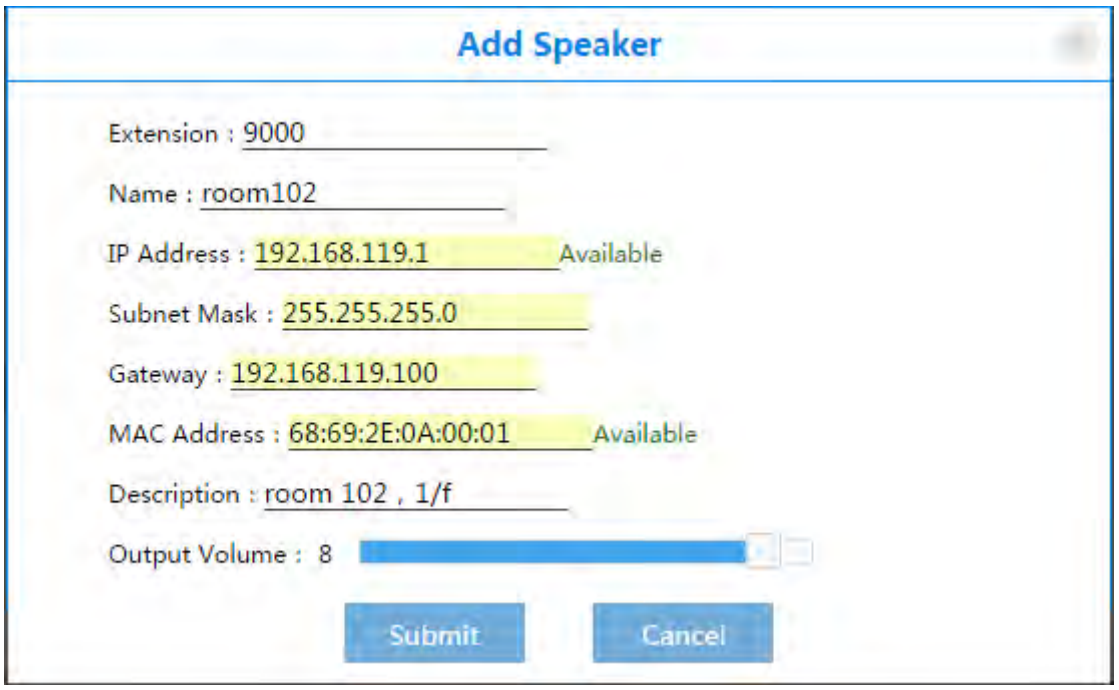


Then visit PMS web interface with either the default IP: 192.168.1.100:9997 or an alternate one that you have programmed

Click **Paging System→ Speaker Device** to configure iSpeaker; then **Apply**.

(E.g.: iSpeaker extension number: 9000/ 9001/ 9002/ 9003.)

For example, configure iSpeaker extension 9000 as below:



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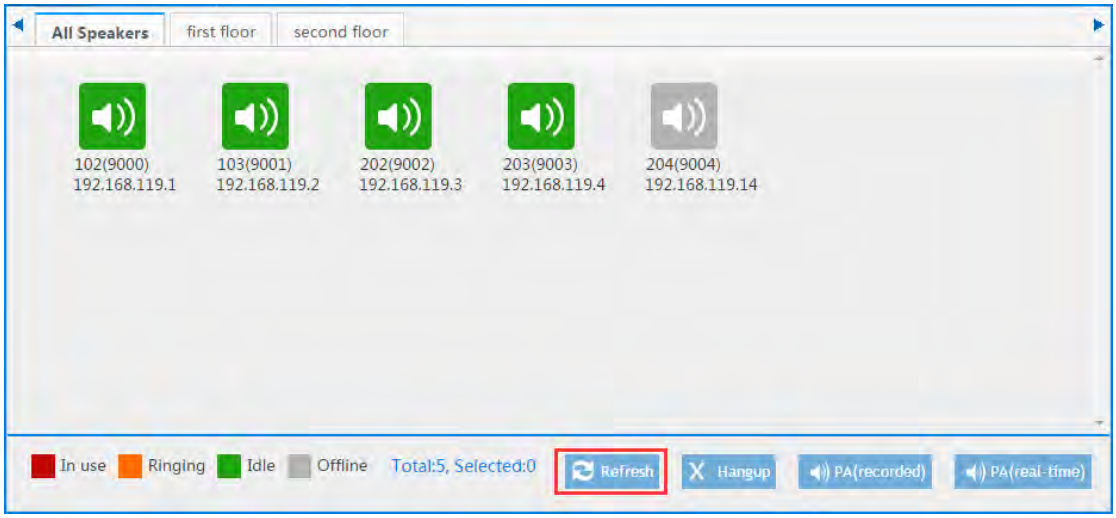
If the iSpeaker is in the same network segment as PMS then all the settings of iSpeaker will be automatically generated once it has been connected to the network.

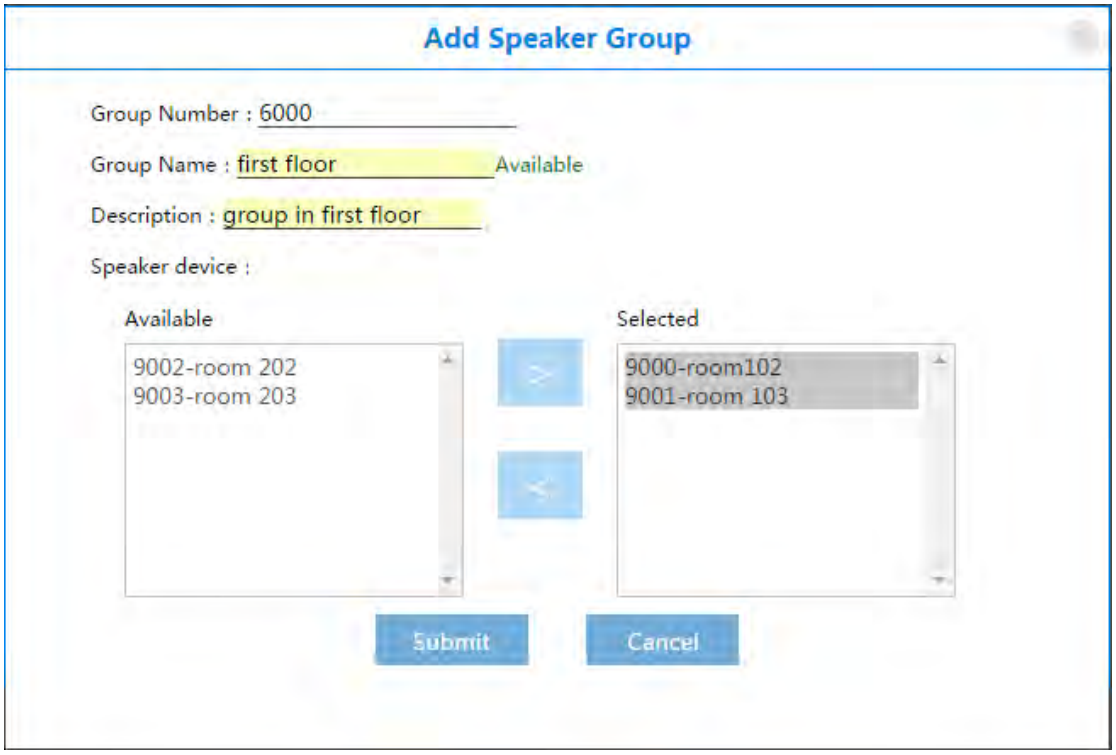
Note: It takes one minute after power on for iSpeaker to receive the configuration data automatically and register to the IP PBX. However, there may be some problem regarding the status of the newly configured iSpeaker and to resolve this problem you can click **Paging System→Operation Panel→Refresh** to refresh its status.



Now you can group the speakers and note that one speaker can be distributed to multiple groups.

Click **Paging System→ Speaker Group**:

Distribute extension 9000 and 9001 to group 6000(first floor) as below picture:



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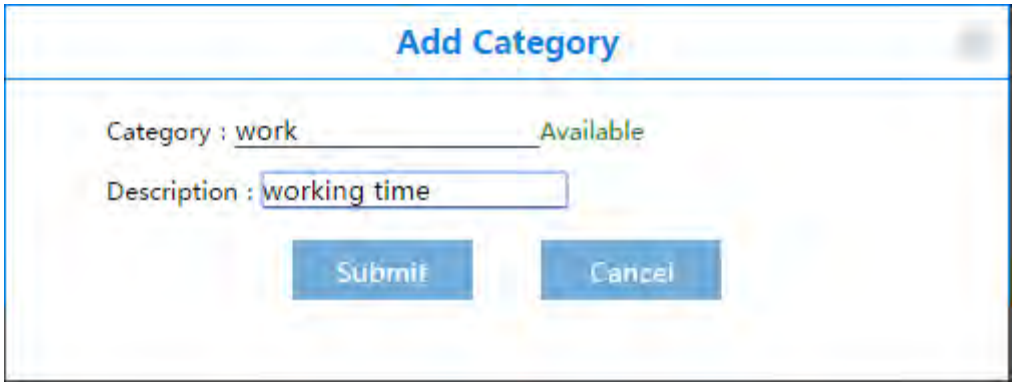
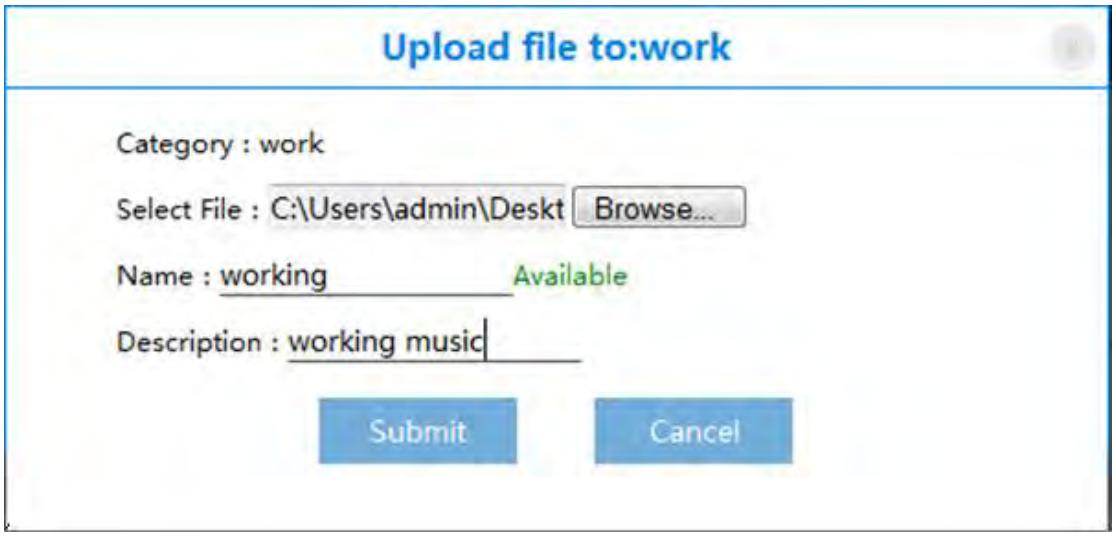
6.3 Prepare Voice File

To prepare a voice file, click **Paging System→Voice Management** to create file category as below:



After the category has been successfully created, click **Manage→Add** to add voice file for this category as detailed below:



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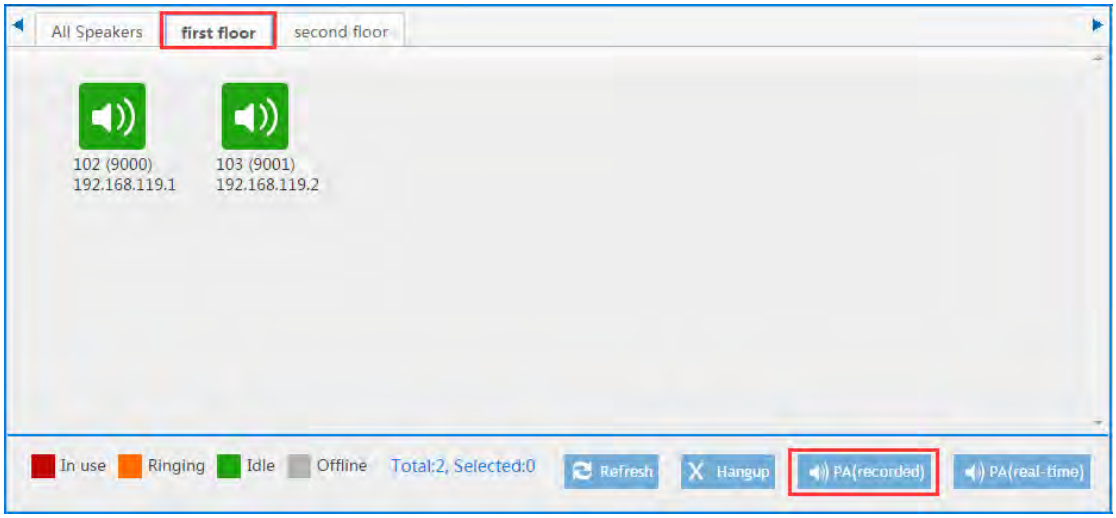
6.4 Application of PMS

After you have created an extension for the login user, then they can execute any operation on the Operation Panel, such as hang up, pre-recorded PA, or real-time PA.

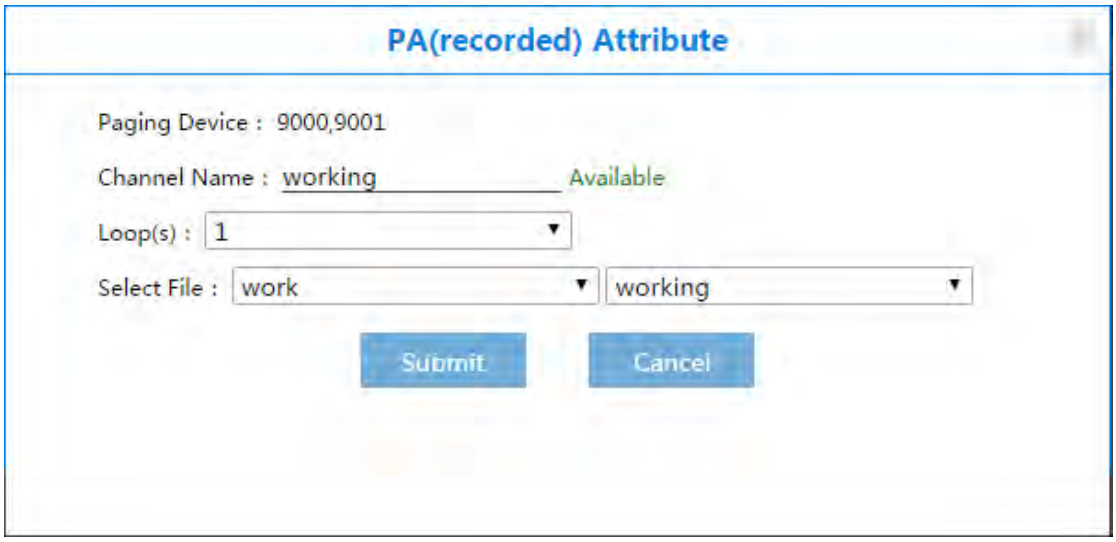
PA (recorded)

Choose group-first floor, then click PA (recorded)



Next you need to define the **Channel Name**, select **File** and **Loop** times to play the selected voice file.

After this is complete then submit the change, now the PA is started for all the members in the first floor group.



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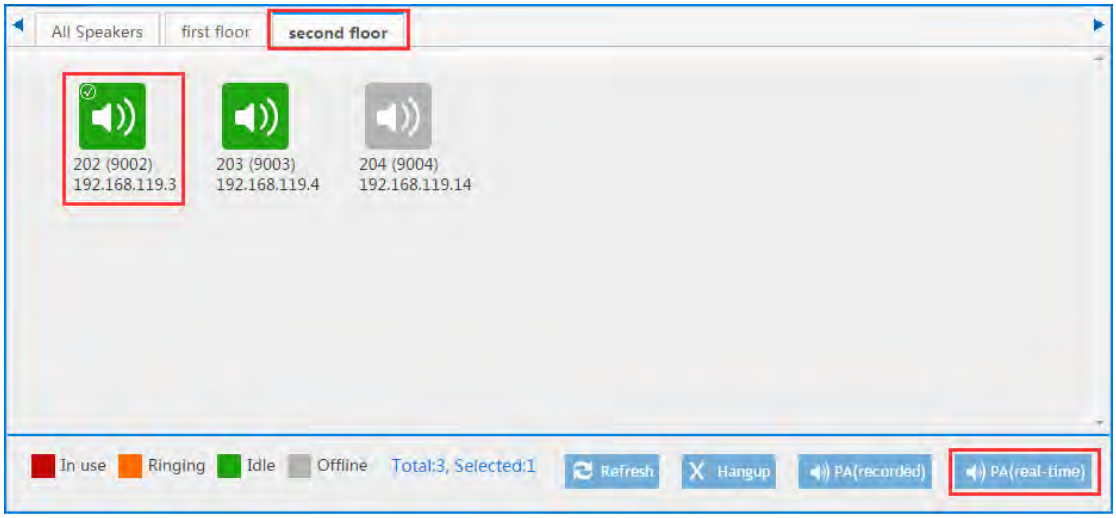
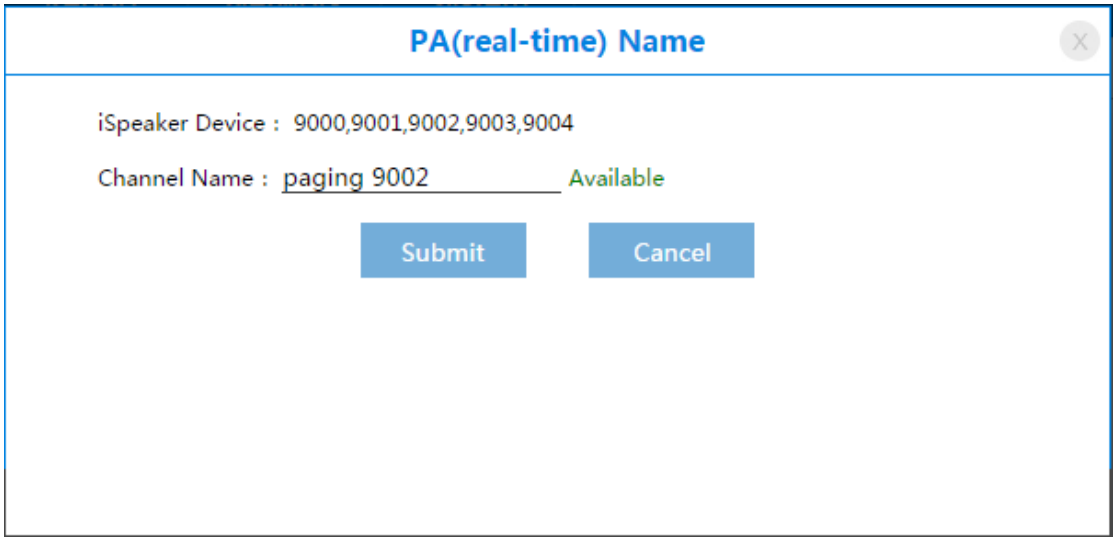
PA (real-time)

Ensure the login user extension is registered before real-time PA.

Select group-second floor, and extension 9002(room202), then click **PA(real-time)**as below:



Define the **Channel Name** and **Submit.**



The above configuration will allow the real-time PA to work in the following manner.

- Extension 800 will be called.
- Answer 800 and it will automatically dial extension 9002
- Extension 9002 will ring briefly before answering the call automatically and you can then start your real-time PA over the device.

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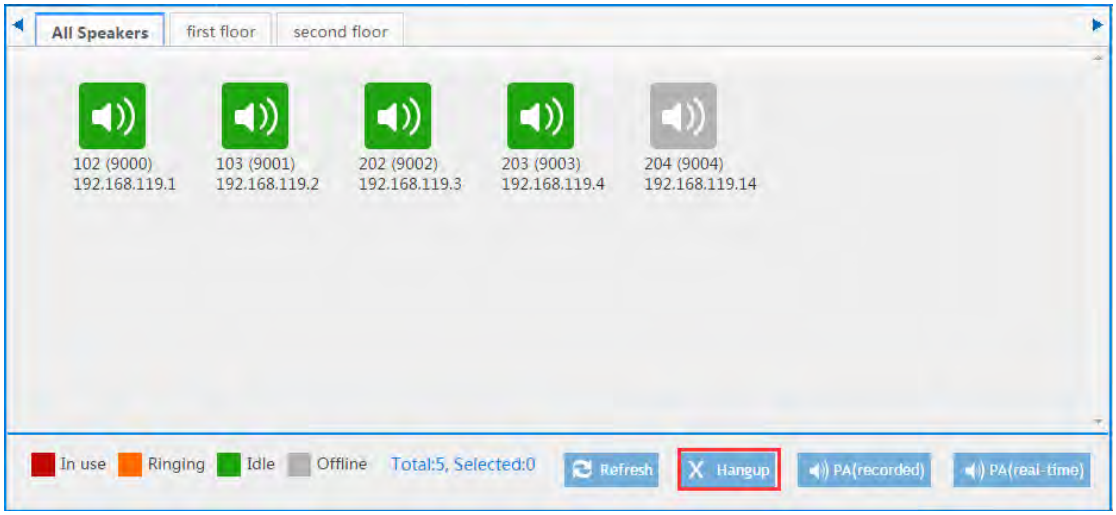
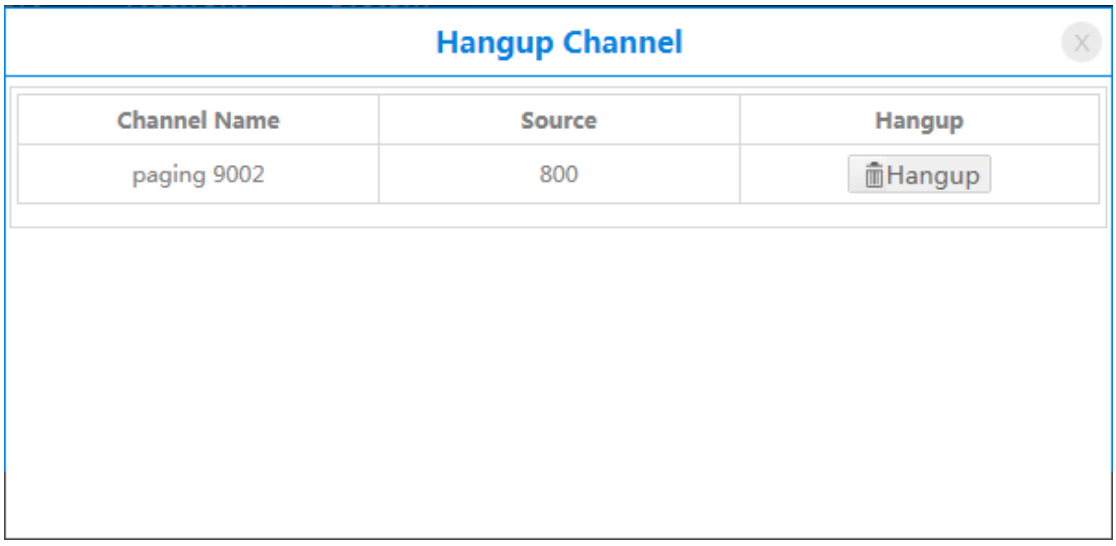
Hang up



Finally, when you click **Hangup**, **Hangup Channel** will be displayed as in the below diagram and you can then hang-up all the speakers in the channel.



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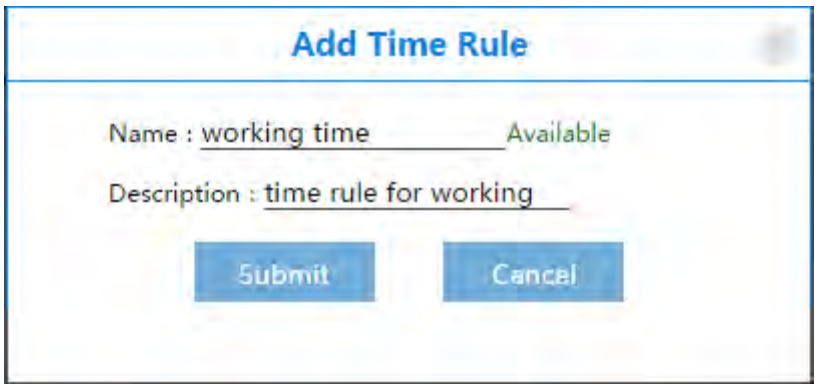
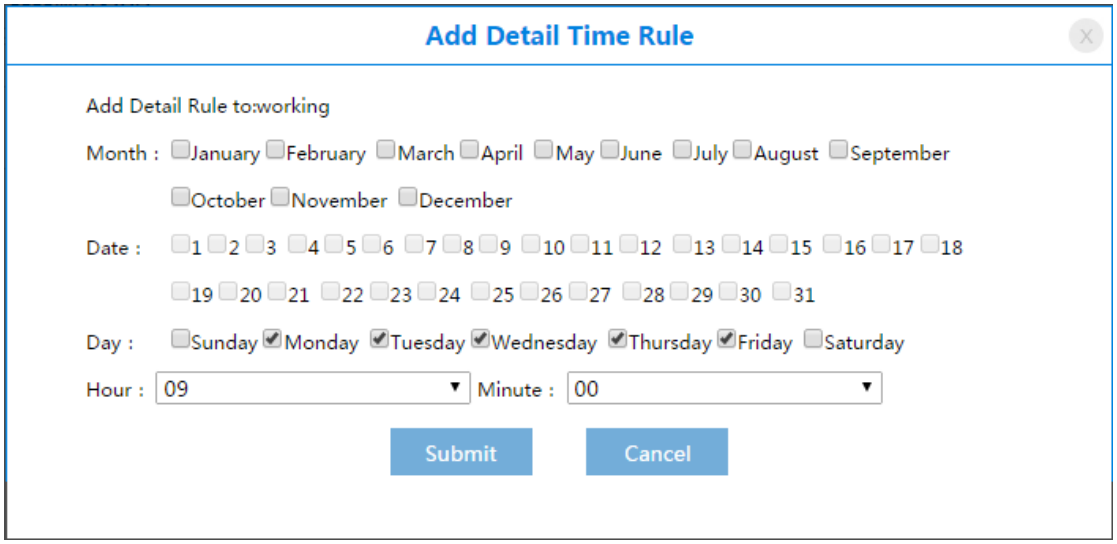
6.5 Timed Task

To create a timed task, first, add time rule from **Paging System→Time Rule**:
E.g.: working time



Then add detailed time rule for this rule. (You can add multiple detail time rule for one rule)


Add Detail Time Rule
Add Detail Rule to:working
Month : January February March April May June July August September
October November December
Date : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
19 20 21 22 23 24 25 26 27 28 29 30 31
Day : Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Hour : 09
Minute : 00
Submit
Cancel

Add timed task from **Paging System→PA Task**.
Define task name, select which group this task belongs, choose voice file, play loops and time rule (multiple rules can be available), then **Submit** and **Apply**.

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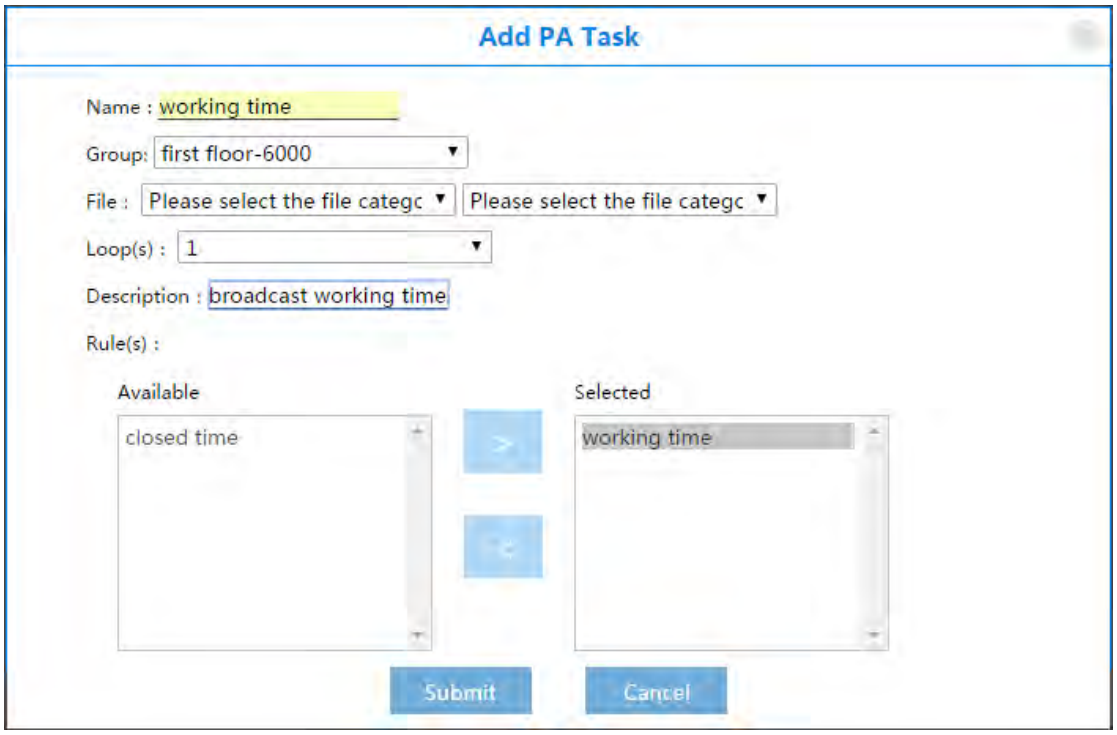

From above settings, every morning 9:00 from Monday to Friday, there will be a recorded PA for the members in first floor-6000.

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